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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,498	11/13/2001	Arnaud Gueguen	215352US2PCT	6655
22850	7590	03/02/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			CHEN, TE Y	
			ART UNIT	PAPER NUMBER
			2161	

DATE MAILED: 03/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/926,498

Applicant(s)

GUEGUEN ET AL.

Examiner

Susan Y Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09/14/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10 and 17-19 is/are rejected.
- 7) ☒ Claim(s) 11-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Amendment***

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/14/2004 has been entered.

Claims 10-19 are pending for examination, claims 10-11 have been amended.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 10 and 17-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Laumen et al. (U.S. Patent No. 6,396,423).

As to claim 10, Laumen et al. (hereinafter referred as Laumen) discloses a digital transmission method of an error correction coding [Abstract; col. 1, lines 21-33], comprising:

a) observing transmission conditions continuously to detect at least one dynamic parameter of the current transmission conditions [e.g., the use of Cyclic redundancy check (CRC) or Reed-Soloman techniques during data transmission to observing transmission error conditions, col. 1, lines 60 – col. 2, line 15];

b) selecting dynamically, as a function of the at least one dynamic parameter, a distribution of elementary coding step redundancies from a plurality of distributions of elementary coding step redundancies for which a global efficiency is equal to a predetermined target efficiency, for which a global efficiency of a coding scheme resulting from a serial concatenation of an elementary coding step, such that the predetermined target efficiency being determined by a product of efficiencies of at least two elementary coding steps modified by corresponding puncturing steps [e.g., the adjustable turbo coding procedure at col. 2, lines 16 – 37; the functional subsequent coding steps at col. 4, lines 8-40; the correction unit (13, Fig. 2) of the inner (Viterbi) decoder, col. 5, lines 3 – 65; the steps:1015, 1016 of Fig. 3 and associated texts; Note: all of the steps and means are covered by the default Gaussian distribution function of a Turbo coding/decoding].

As to claim 17, except the limitations recited in claim 10 above, Laumen further discloses the at least one dynamic parameter is a signal/noise ratio [e.g., col., 1, lines 29-31].

As to claims 18-19, except the limitations recited in claim 10 above, Laumen further discloses the observing transmission conditions and selecting a distribution of elementary coding are executed by a transmitter [e.g., the contemporary UMTS system, col. 2, lines 16-18] and a receiver [e.g., the Viterbi decoder, col. 5, lines 15- 65].

***Allowable Subject Matter***

Claims 11-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

claim 11 is allowable because the prior art on record or that encountered in searching for the invention, fails to disclose or suggest the features of instant invention – a digital transmission error correction coding procedure that performing an iterative decoding procedure including at least two elementary decoding steps concatenated in series with corresponding puncturing, interleaving, de-interleaving and de-puncturing

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steps between the at least two elementary coding steps, each of the at least two elementary coding steps adding at least one redundancy bit to a sequence of bit data to generate a coded data for transmitting over a channel, such that to obtain an estimation of error correction data from coded data in a combination as claimed by applicant.

Claims 12-16 are allowable because these claims are respectively depend on claim 11 therefore having the same features as their base claim that is allowable.

### ***Response to Arguments***

Applicant's arguments filed on 09/14/2004 have been fully considered but they are not persuasive.

The examiner disagrees with applicant's argument that "Laumen does not disclose or suggest... selecting dynamically ... a distribution of elementary coding step redundancies from a plurality of distributions of elementary coding step redundancies from a plurality of distributions of elementary coding step redundancies..."

In reply to this argument, the examiner points out that the claimed distribution/selection schema is the default Gaussian distribution function of a Turbo coding/decoding. Furthermore, contrary to applicant's arguments, Laumen clearly disclose the claimed features, for example, Laumen expressly discloses using a fine bit rate adjustment unit (block 13, Fig. 2 & Fig. 3) to adjust (or matching) the data stream transmission over a data channel (block 15, Fig. 2) selected by the inner coder (block

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12, Fig. 2) form a plurality of transmission rates schema (e.g.,  $\frac{1}{2}$ ,  $\frac{1}{3}$ ,  $\frac{1}{4}$ , col. 4, lines 8-40), and he further discloses using subsequent functional interleaving and de-interleaving procedures to add or remove the adjustable bits of the data stream in order to compute a correct transfer functional bound and correct erroneous decisions of the inner decoder [e.g., col. 4, lines 41 –col. 5 lines 65, the correction unit (13, Fig. 2) of the inner (Viterbi) decoder; the steps:1015, 1016 of Fig. 3 and associated texts].

Thus, based on the discussion above, the examiner maintains the same type of rejection for claims 10 and 17-19.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Wang (U.S. Patent No. 6,014,411) which discloses a repetitive turbo coding communication method to reduce the error floor of turbo coding.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan Y Chen whose telephone number is 571-272-4016. The examiner can normally be reached on Monday - Friday from 7:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 571-272-4023. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Susan Y Chen  
Examiner  
Art Unit 2161

February 16, 2005

  
UYEN LE  
PRIMARY EXAMINER